



Translation

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference R 41014	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/AT2003/000076	International filing date (day/month/year) 18 March 2003 (18.03.2003)	Priority date (day/month/year) 10 April 2002 (10.04.2002)
International Patent Classification (IPC) or national classification and IPC B23K 9/09		
Applicant FRONIUS INTERNATIONAL GMBH		

<p>1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of <u>5</u> sheets, including this cover sheet.</p> <p><input type="checkbox"/> This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).</p> <p>These annexes consist of a total of _____ sheets.</p>
<p>3. This report contains indications relating to the following items:</p> <p>I <input checked="" type="checkbox"/> Basis of the report</p> <p>II <input type="checkbox"/> Priority</p> <p>III <input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p>IV <input type="checkbox"/> Lack of unity of invention</p> <p>V <input checked="" type="checkbox"/> Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p>VI <input type="checkbox"/> Certain documents cited</p> <p>VII <input type="checkbox"/> Certain defects in the international application</p> <p>VIII <input type="checkbox"/> Certain observations on the international application</p>

Date of submission of the demand 01 August 2003 (01.08.2003)	Date of completion of this report 12 July 2004 (12.07.2004)
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/AT2003/000076

I. Basis of the report

1. With regard to the elements of the international application:*

- ☐ the international application as originally filed
- ☒ the description:
 pages _____ 1-9 _____, as originally filed
 pages _____, filed with the demand
 pages _____, filed with the letter of _____
- ☒ the claims:
 pages _____ 1-12 _____, as originally filed
 pages _____, as amended (together with any statement under Article 19
 pages _____, filed with the demand
 pages _____, filed with the letter of _____
- ☒ the drawings:
 pages _____ 1/2-2/2 _____, as originally filed
 pages _____, filed with the demand
 pages _____, filed with the letter of _____
- ☐ the sequence listing part of the description:
 pages _____, as originally filed
 pages _____, filed with the demand
 pages _____, filed with the letter of _____

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item. These elements were available or furnished to this Authority in the following language _____ which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/fig _____

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rule 70.16 and 70.17).

** Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/AT 03/00076

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1-13	YES
	Claims		NO
Inventive step (IS)	Claims	1-13	YES
	Claims		NO
Industrial applicability (IA)	Claims	1-13	YES
	Claims		NO

2. Citations and explanations

Reference is made to the following documents:

- D1: WO 95/34400 A (UNIV DELFT TECH; AENDENROOMER ANTONIUS JOHANNES (NL); DEN OUDEN GE)
21 December 1995 (1995-12-21)
- D2: GB-A-2 038 687 (CENTRAL ELECTR GENERAT BOARD)
30 July 1980 (1980-07-30)
- D3: PATENT ABSTRACTS OF JAPAN, Vol. 005, No. 053,
(M-063), 14 April 1981 (1981-04-14) &
JP 56 009060 A (TOSHIBA CORP), 29 January 1981
(1981-01-29)
- D4: PATENT ABSTRACTS OF JAPAN, Vol. 2000, No. 24,
11 May 2001 (2001-05-11) & JP 2001 198677 A
(ISHIKAWAJIMA HARIMA HEAVY IND CO LTD), 24 July
2001 (2001-07-24)
- D5: PATENT ABSTRACTS OF JAPAN, Vol. 018, No. 585,
(M-1700), 9 November 1994 (1994-11-09) &
JP 06 218546 A (TOYOTA MOTOR CORP), 9 August
1994 (1994-08-09)
- D6: PATENT ABSTRACTS OF JAPAN, Vol. 004, No. 096,
(M-020), 11 July 1980 (1980-07-11) &
JP 55 054273 A (SHOWA ALUM CORP), 21 April 1980
(1980-04-21)
- D7: AENDENROOMER A J R ET AL: "WELD POOL OSCILLATION

AS A TOOL FOR PENETRATION SENSING DURING PULSED
GTA WELDING" WELDING JOURNAL, AMERICAN WELDING
SOCIETY. MIAMI, US, Vol. 77, No. 5, page(s) 181-
S-187-S, XP000831416 ISSN: 0043-2296

1. The subject matter of claims 1 and 2 is novel and inventive (PCT Article 33(2) and (3)).
- 1.1 A welding method or tack welding method with non-fusible electrodes, as mentioned in the preambles of claims 1 and 2, is generally known; see, for example, D1 to D4 and D7.
- 1.2 The subject matter of claim 1 and of claim 2 differs therefrom by virtue of the features defined in the characterising parts of those claims.
- 1.3 The present invention can be considered to address the problem of improving the quality of the weld seam in the start phase of the welding process.
- 1.4 In D1, D5 and D7, the liquid molten bath is set in oscillating motion during welding and the welding arc voltage is determined in order to determine the quality of the weld seam. In D2 and D6, the liquid molten bath is set in oscillating motion during welding using a magnetic field. In D3 and D4, the liquid molten bath is set in oscillating motion during welding using a mechanical vibration device or sound waves.

There is nothing in the available prior art to indicate solving the aforementioned problem of interest in the manner specified in claims 1 and 2. The solution to this problem proposed in claims 1

and 2 of the present application thus involves an inventive step.

2. Claims 3 to 12 are dependent on claim 1 or claim 2 and therefore likewise meet the PCT requirements for novelty and inventive step.